

# PATTERNS OF LAND OWNERSHIP IN CENTRAL THAILAND DURING THE TWENTIETH CENTURY

by

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One of the major untold stories of Southeast Asia is the opening of the region to world markets in the nineteenth century and the rapid transformation of the rice-growing deltas of Burma, Thailand and Vietnam. The Thai case is perhaps most obscure. Analyses of the aggregate economic data, especially the trade statistics, have left the peasants responsible for the transformation in the shadow of history. In contrast to Burma, there has been no Furnivall to plead their case nor British colonial officers' reports to serve as the basis for historical studies.

The purpose of this study is to elucidate the Thai experience by examining changing patterns of land ownership in two provinces, Ayuthia and Nakhon Pathom, in the Chao Phya Delta since 1910. The rice economy of the Central Plain had been firmly established by that time. After the booming decades of the 1880's and 90's, an extended recession from 1905 to 1912 was a watershed marking the start of a period of slower growth.<sup>1</sup> To the extent of their availability, the basic economic data defining agricultural expansion in the two provinces from 1910 to 1970 are presented in Appendix A.

A brief outline of economic conditions in the Central Plain during this period serves as a preface to the statistical detail in the body of the paper. The agricultural recovery in the first decade, the 1910's, from the earlier recession was only partial, because of low prices during World War I, severe floods in 1917 and drought in 1919. The 1920's were generally prosperous in the Central Plain with high prices, growing

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1) David B. Johnston. *Rural Society and the Rice Economy in Thailand, 1880-1930*. (typewritten, draft Ph.D. Thesis, submitted to Yale University, 1975), Chapter VII.

exports and the opening of new irrigation facilities. The low prices generated by the worldwide depression had a severe impact upon the welfare of rice farmers in the Siamese countryside during the 1930's. Production was high during most of the 1940's, although the traditional export market collapsed during the war and an "ant army" smuggled most of the surplus into Malaya to evade the international controls established after the war. More than a ten-fold rise in prices during the decade bridged the pre and post World War II price systems. Fluctuations in production were moderated in the last two decades by better water control from new irrigation facilities, such as the Chainat dam which was finally completed in 1956. Nevertheless, there were poor crops in 1954 and 1957, and in Ayuthia in 1964. Rising population caused the export surplus to decline and the tax on rice exports, the "rice premium", increased the margin between the rice export prices and the domestic paddy prices.

The other deltas of Southeast Asia were similarly exposed to external events which the cultivators could neither control nor comprehend. The Irrawaddy Delta was developed the most rapidly and it was here that the depression of the 1930's fell with the most tragic consequences for the peasant landowners.<sup>2</sup> Because the Irrawaddy Delta shares common characteristics with the Chao Phya, the Burmese experience is considered by some to have telescoped in time a process which is unfolding more gradually elsewhere. The Burmese case of the 1930's, with its Malthusian dimension, will be summarized in a model, and the question posed in this study is whether it characterizes Thailand of that period or is relevant to Thailand of the 1970's.

The Burmo-Malthusian model explains an inevitable crisis in peasant agriculture caused by a convergence of population growth (from natural reproduction or migration) within a fixed land frontier under the following conditions: constant "state of the arts", rights of equal inheritance of the land, and limited opportunities for alternative employ-

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2) See Michael P. Adas. *Agrarian Development and the Plural Society in Lower Burma, 1852-1941* (Ph.D. Thesis, University of Wisconsin, 1971), pp. 473-485.

ment. While the root causes are inherent in the dynamics of the model, the trends may be accelerated and the crisis precipitated by external events such as the depression of the 1930's. The declining land-labor ratio and marginal productivity of labor have inevitable and irreversible consequences. First, indebtedness increases as incomes fall and land prices rise. Second, land transfers increase as the village landholders are forced to sell their land or lose it in mortgage foreclosures facilitated by the introduction of an alien system of land registration. Third, social and economic inequality grows as the control of land shifts to wealthy traders or moneylenders in the towns and cities. The process pulls the former freeholder down in stages to the status of a tenant and then a landless laborer, a member of the rural proletariat whose condition in Burma was one of the seeds of its postwar socialism.

A conventional wisdom has developed in recent years, based on a Burmo-Malthusian type of model, that interprets the process and consequences of post-World War II agricultural growth in the Central Plain of Thailand. Foreign and Thai scholars, civil servants in some ministries, and student groups have shared in the formulation and propagation of a belief that the old ideal of village life is rapidly disappearing from central Thailand. They emphasize the existence of wide and growing disparities in wealth, landholdings, influence and status.

Two illustrative quotations from Western sources suggest how this conventional wisdom draws upon components of the Burmo-Malthusian model:

For practical purposes, the twentieth century has marked the end of readily available, easily cultivable land for the majority of the inhabitants of the Central Plains. . . . In response to new opportunities for profit, land speculation on the part of the urban strata developed and ownership of rice lands passed increasingly and irreversibly out of the local, rural community<sup>3</sup>.

The seriousness of the [rural] problem is reflected officially in a recent Thai government proposal for land reform in the Central Plain region, in an effort to reverse the tendency towards large

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3) Steven Piker. "Sources of Stability and Instability in Rural Thai Society." *Journal of Asian Studies*, XXVII (August 1968), pp. 788-9,

farms and a growing tenant class which have followed from the capitalization of agriculture... Furthermore there has been a dramatic deterioration in the income distribution in the 1960's, both between Bangkok and the rural sector and especially within the rural sector.<sup>4</sup>

The objective of this study is to test the validity of the conventional wisdom about conditions in the Central Plain by examining new primary data on the rate of land transfers, trends in the equality of land ownership, the degree of land mortgaging, and the nature of landlord-tenant relationships. While many of the basic conditions in Burma and Thailand have been similar, the bulk of the evidence examined here is inconsistent with the conventional wisdom that rural conditions are gravely deteriorating. In the final section there is a brief exploration of why the Burmo-Malthusian model has not been applicable to Thailand and the policy implications of such a conclusion.

#### Sources and Reliability of the Data

The source of primary data in this study is a sample of land title deeds (*chanōt thī din*) from three villages in Nakhon Pathom and three in Ayuthia, two provinces of the Central Plain. The Royal Survey Department started preparing maps from cadastral surveys in 1897 and a Torrens system of land registration was established by Royal Edict in 1901.<sup>5</sup> The first titles under the new system were issued in Ayuthia, the heartland of the Central Plain. Although disputes over land on the expanding frontier created an awareness in Bangkok of the need for a system of land titling, it was more feasible to introduce the system in areas of relatively dense and permanent settlements where property rights comparable to the Western concept were evolving from the

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- 4) Peter F. Bell. "The Historical Determinants of Underdevelopment in Thailand." Undated revision of Economic Growth Center Discussion Paper, No 84, Yale University (February 1970), p. 27,30.
  - 5) General Report of the Operations of the Royal Survey Department, Season 1904-05. (Bangkok: American Presbyterian Mission Press, 1906), p. 18 Also see Johnston, Chapter III.

continuing cultivation of the land. The first titles were issued in Nakhon Pathom the following year, and by 1910 title deeds had been issued for 90 percent of the land currently titled in the Ayuthia sample and 68 percent in the Nakhon Pathom sample. The time series used in this paper usually starts with 1910 in order to cover a full six decades of historical change, although the issuance of titles for additional land in later decades, especially in Nakhon Pathom, prevents complete comparability over time and between the two provinces.

These two provinces were selected because of their prominence as rice producing areas and because the early issuance of title deeds there provided a basis for this historical analysis. The villages were selected by a two-stage random process described in Appendix B, Methodology, which also identifies the villages which are represented by symbols in the text. The statistical data recorded on the title deeds consist of the dates, names and locations of the parties for all land transactions—sale, gift, will, mortgage, *khai faak* (sale with the right of redemption), and various other minor types.

The objective was to use the primary data from the title deeds in these six villages to generalize concerning changing patterns of ownership over time in the lowland rice areas of the Central Plain. Since the data conflict with the conventional wisdom, a discussion of their weaknesses is imperative. Do the villagers actually record changes in the de facto possession of the land so that titles accurately reflect true ownership? A systematic sample of the title deeds in one village, described in Appendix B, indicated that the data on the title deeds were accurate in 93 percent of the cases. At least in this one village, parties to commercial land transactions, such as sales or mortgages, appear to register them promptly, while there may be lags in registering transfers by gift or will. The growing incidence of multiple ownership, cases with the names of two or more individuals on the title deed, increases the number of parties to each transaction and the value of legal recording of individual rights.

Do the villages in the sample accurately represent the population of rice growing villages in Central Thailand? These six villages were in areas of long continuous settlement which tended to be cleared and farmed by small scale owner-operators. Conditions may have varied in the villages which had to be rejected from the Ayuthia sample because the changes of district boundaries after 1910 prevented the location of all the title deeds; new districts were created by the subdivision of older districts after population had filled in an area and increased the administrative responsibilities beyond the capacity of one district office. Social and economic conditions were also clearly different in the large-scale land development scheme at Rangsit, where urban landowners were farming estates with tenant and migratory labor during this early period. However, exponents of the conventional wisdom have placed disproportionate emphasis on developments in the Rangsit area where the population in 1929 was only six percent that in the circles of Ayuthia and Nakhon Pathom.<sup>6</sup>

The heterogeneity of the Central Plain is evident even in the villages of the sample. The correlation matrices of the relations between the six villages for each of the major variables in this study generally have low, although positive, values. The following analysis has been carried out with recognition of these deficiencies in the data, because there is no alternative microeconomic data series of comparable validity concerning economic changes in the villages over this period of time.

#### Methods and Rate of Land Transfers

The five major types of land transfers have been analyzed in this study—sale, will, gift, mortgage and *khai faak*. Mortgage and *khai faak* are alternative ways to pledge land as collateral for loans, but their consequences differ significantly. The maximum interest rate on a mortgage loan is set by law at 15 percent and, in case of default, the land is sold

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6) Chumphot Suvaphorn. *Model of Agricultural Development in a Less Developed Country: A Study of Rice Production in Thailand*. (Ph.D. Thesis, University of North Carolina, 1975), p.82 The 1929 population of Rangsit is stated as 28,441. Other estimates, however, are possible because the Rangsit development scheme was not coterminous with district boundaries and population fluctuated because of the heavy use of migratory labor.

at auction and the proceeds used to liquidate the debt. In the case of *khai faak*, ownership passes immediately to the buyer subject to the agreement that the seller can redeem the property at a stipulated price; if the land is redeemed within the specified period, ownership is deemed never to have been vested in the buyer. This process greatly favors the transferee who can escape the regulations limiting interest rates and has the possibility of acquiring the entire plot of land even if its value is greatly in excess of the ostensible purchase price.

The relative importance of each type of land transfer has been calculated by taking the average annual rate of transfer for the period, 1910–1972, measured as the percent of the total titled area in the sample villages of the two provinces. Mortgage and *khai faak* refer to land transferred from the original owners because of default on their loans and not the rate at which the land was originally encumbered by the debt. The average yearly rates of transfers over the period were as follows:

	<i>Ayuthia</i>	<i>Nakhon Pathom</i>
Sale	2.0%	1.9%
Will	1.7	1.1
Gift	1.1	1.1
Mortgage & <i>khai faak</i>	<u>.4</u>	<u>.2</u>
	5.2%	4.3%

Table I shows the three-year moving average rate by year for the two provinces classified by 1) sale, gift and will and 2) mortgage and *khai faak*.

The total rate of land turnover may be defined as the sum of (1) the natural or warranted rate and (2) the involuntary rate. The natural or warranted rate reflects the normal inter-generational turnover of land. Given the mean length of a generation in Thailand, there should be a complete turnover of all the land in the village every twenty-seven years. The warranted rate of land turnover would be about 3.7 percent per

year.<sup>7</sup> A village could average a 3.7 percent annual turnover indefinitely without having any one family involuntarily losing its land to others. A family might become poorer as a consequence of an increasing labor: land ratio from generation to generation, but there would be no distress caused by a family's losing its land.

TABLE 1  
Average Annual Transfer of Land in the Central Plain, 1910-1972  
Percent of Total Titled Area in a Sample of  
Villages in Ayuthia and Nakhon Pathom  
(Three Year Moving Average)

Year	Ayuthia			Nakhon Pathom		
	Sale, Gift and Will	Mortgage, Khai Faak	Total	Sale, Gift and Will	Mortgage, Khai Faak	Total
1910	.9%	0%	.9%	1.0%	0%	1.0%
1911	.9	.2	1.1	.7	0	.7
1912	1.6	.2	1.8	1.4	0	1.4
1913	2.4	.2	2.6	2.2	0	2.2
1914	3.1	0	3.1	2.6	0	2.6
1915	3.8	.1	3.9	4.7	0	4.7
1916	3.7	.1	3.8	4.0	0	4.0
1917	4.8	.2	5.0	4.6	.1	4.7
1918	3.6	.1	3.7	2.0	.1	2.1
1919	4.4	.1	4.5	2.2	.2	2.4
1920	3.1	0	3.1	2.6	.2	2.8
1921	4.4	.1	4.5	3.5	.3	3.8
1922	5.3	.3	5.6	3.7	.1	3.8
1923	5.5	.3	5.8	3.8	0	3.8
1924	5.4	.5	5.9	3.2	0	3.2
1925	5.9	.4	6.3	3.8	.2	4.0

7) "Utilizing the 1970 Census and other demographic data on Thailand compiled by the International Statistical Programs Center, U.S. Bureau of the Census (Thailand Country Demographic Profile, 1975), the mean length of generation, defined as 'the mean age of mothers at the birth of their daughters' (U.S. Shryock, J.S. Siegel, and Associates. *The Methods and Materials of Demography*. U.S. Bureau of the Census, 1973, p. 527), approximates 26.7 years.

TABLE 1 - Continued

Year	Ayuthia			Nakhon Pathom		
	Sale, Gift and Will	Mortgage, Khai Faak	Total	Sale, Gift and Will	Mortgage, Khai Faak	Total
1926	6.7%	.4%	7.1	4.6%	.2%	4.8
1927	7.8	.6	8.4	5.6	.1	5.7
1928	6.5	.6	7.1	6.2	0	6.2
1929	6.4	.5	6.9	6.7	.3	7.0
1930	5.2	.8	6.0	8.6	.3	8.9
1931	5.4	1.5	6.9	8.4	.7	9.1
1932	5.5	2.3	7.8	8.5	.9	9.4
1933	5.8	2.4	8.2	8.6	1.0	9.6
1934	5.2	1.9	7.1	8.8	.8	9.6
1935	3.8	.9	4.7	6.8	.5	7.3
1936	2.8	.6	3.4	5.3	.3	5.6
1937	2.4	.5	2.9	5.2	.4	5.6
1938	4.2	.7	4.9	4.7	.4	5.1
1939	5.5	.6	6.1	3.2	.4	3.6
1940	6.4	.5	6.9	2.8	.4	3.2
1941	6.3	.6	6.9	3.3	.5	3.8
1942	5.3	.8	6.1	3.1	.4	3.5
1943	5.4	.7	6.1	2.9	.3	3.2
1944	4.2	.3	4.5%	3.6	.1	3.7
1945	5.0	.1	5.1	4.3	.1	4.4
1946	4.5	.1	4.6	6.5	.3	6.8
1947	6.1	.1	6.2	7.7	.3	8.0
1948	6.6	.1	6.7	8.7	.2	8.9

This is achieved with an intrinsic rate of natural increase of 3.0152 percent per annum and a net reproduction rate of 2.4058. While the mean length of generation may appear high in this case, 26.7 years agrees with other approximations of this statistic for other countries . . . Several factors converge to produce changes in the mean length of generation, thus it is difficult to assert with certainty how it might have moved over the period 1910-1972."

Personal communication, Dr. H. Leedom Lefferts, Jr., October 30, 1975.

TABLE 1 — Continued

Year	Ayuthia			Nakhon Pathom		
	Sale, Gift and Will	Mortgage, Khai Faak	Total	Sale, Gift and Will	Mortgage, Khai Faak	Total
1949	8.2	.2	8.4	8.6	.1	8.7
1950	6.8	.1	6.9	6.9	.1	7.0
1951	6.5	.2	6.7	6.1	.2	6.3
1952	5.4	.2	5.6	5.4	.1	5.5
1953	5.6	.3	5.9	5.2	.1	5.3
1954	1.0	.2	1.2	5.6	.1	5.7
1955	5.2	.1	5.3	4.8	.1	4.9
1956	4.8	0	4.8	4.3	.1	4.4
1957	4.4	0	4.4	3.6	.1	3.7
1958	3.0	.1	3.1	2.7	0	2.7
1959	3.2	.1	3.3	4.0	0	4.0
1960	3.1	.4	3.5	3.9	0	3.9
1961	3.9	.6	4.5	4.7	.1	4.8
1962	4.0	.7	4.7	4.9	.1	5.0
1963	4.3	.4	4.7	5.3	.1	5.4
1964	3.5	.3	3.8	4.8	.1	4.9
1965	3.4	.3	3.7	3.7	.1	3.8
1966	3.6	.3	3.9	3.6	.2	3.8
1967	4.0	.2	4.2	3.3	.2	3.5
1968	3.9	0	3.9	3.4	.1	3.5
1969	3.8	.2	4.0	3.5	0	3.5
1970	4.0	.2	4.2	3.8	.1	3.9
1971	3.7	.2	3.9	3.8	.2	4.0
1972	3.7	.1	3.8	3.6	.2	3.8

Assuming that a farm family would normally want to retain possession of its land, any rate of turnover in excess of about 3.7 percent can be termed involuntary. A rise in the involuntary turnover rate would imply that conditions had created an incentive for villagers to sell family land. A family might sell its land because of the existence of

new employment opportunities either within or outside the village, or simply because it had no heirs. In the absence of such special conditions, a high involuntary turnover rate would suggest the existence of economic distress in the villages.

The average annual rates of warranted and involuntary turnover for the total sample were as follows:

<i>Period</i>	<i>Sale, Gift and Will</i>	<i>Mortgage, Khai Faak</i>	<i>Total Turnover</i>	<i>Warranted Turnover</i>	<i>Involuntary Turnover</i>
1910-14	2.1%	0.0%	2.1%	3.7%	0.0%
1915-19	3.7	0.1	3.8	3.7	0.1
1920-24	4.3	0.2	4.5	3.7	0.8
1925-29	6.6	0.4	7.0	3.7	3.3
1930-34	6.8	1.3	8.1	3.7	4.4
1935-39	4.1	0.4	4.5	3.7	0.8
1940-44	4.3	0.4	4.7	3.7	1.0
1945-49	7.4	0.1	7.5	3.7	3.8
1950-54	4.9	0.1	5.0	3.7	1.3
1955-59	4.0	0.0	4.0	3.7	0.3
1960-64	4.0	0.3	4.3	3.7	0.6
1965-69	3.7	0.1	3.8	3.7	0.1
1970-72	3.8	0.1	3.9	3.7	0.2

These data suggest two conclusions. First, the rate of involuntary turnover has been decreasing since the late 1940's, indicating more stable rural conditions during recent decades. Second, the rate of involuntary turnover has not been alarmingly high with the exception of several short periods, the depression years and the last half of the 1940 decade. The 4.4 percent involuntary rate of turnover during the former period suggests that about 22 percent of the total area was lost by the original village families during the five-year period, and they would have lost all their family land within 23 years at that rate. While these high rates of turnover reflect the adverse economic conditions of earlier periods, later sections of this paper show that they did not cause the growth of absentee landlords or large resident landowning families in the villages. Moreover, the recent rates suggest a much more gradual process—the complete involuntary turnover of the land would take hundreds of years at the rate of the last decade,

The division of the total turnover rate into a warranted rate and involuntary rate is a very crude device. The rationale for this conceptual distinction is to emphasize that the total turnover rate does not necessarily imply the severe rural distress which it may suggest on first inspection. One reasonable explanation for the major component of the turnover is the normal, inter-generational transfer of land; the residual, the rate of involuntary turnover, has not been high for sustained periods nor the trend worsening. The economy had the strength and resilience to recover from the severe, external shocks of the depression and the Second World War.

### Trends in Equality

According to the conventional wisdom, powerful forces operative in the Central Plain are increasingly concentrating economic power and widening the inequality between social classes. This study focuses upon one significant dimension of economic power, the control of rice land. The evidence discussed in the following paragraphs indicates that ownership shares reflect a persistent stability which is quite inconsistent with the conclusions of the Burmo-Malthusian model.

Equality will be considered first in terms of each individual's total landholdings, which consist of title deeds held exclusively in his name or his share (assumed proportional to the number of owners) in title deeds registered in more than one name. Since there was no means of knowing family relationships from the data, the analysis necessarily concerns individual rather than family holdings, although family landownings would have been a better measure of social welfare in the village. There is no *a priori* means of knowing whether, if it were feasible, the shifting from an individual to a family basis for calculating land distribution would improve or worsen equality.

Before discussing alternative measurements of inequality, it is necessary to discuss the "family name problem" in the classification of title deeds by individual. As part of a national effort to modernize the society, King Vajiravudh decreed in 1916 that every Siamese family must adopt a family name or surname. Prior to 1916 a person was identified, personally and officially, simply by his first name. Legal

documents such as land title deeds were accordingly written in the first name of the person prior to 1916, by which time the title deeds for most of the area in the villages studied here had been issued. Since it was not uncommon for one or more people to have an identical first name, some titles issued prior to 1916 could not be identified unambiguously with a single individual until one subsequent land transaction occurred, thus causing the surname to be added to the title certificate. In cases where there were two or more titles in a village registered in the same name, with no surnames indicated, there was no means of distinguishing between different individual landowners with the same first name and one individual landowner with several title deeds. Because of this "family name problem", no attempt has been made to analyze the distribution of landholdings prior to 1930.

By 1930, however, there had been some type of transaction on most of the land in the six villages and adequate basis for classification existed.<sup>8</sup> The two alternative means of classifying the remaining cases of a common first name and no surname were to assume they were either the same person, assumption A, or different persons, assumption B. Cases of ambiguous identification tend to be small holdings and the application of assumption B caused them to be splintered into even smaller segments. Analysis of the data indicated that assumption B produced a slightly higher degree of inequality than assumption A, although the differences did not appear significant. For purposes of the following analysis, assumption B has been used, so that any error will slightly overstate rather than understate the degree of inequality.

Ownership shares were calculated for each of the six villages for three selected years: 1930, 1950, and 1970. The top 20 percent of the landholders held the following shares of total land in each village at these three dates:

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8) Of the names on the title deeds, 20.1 percent in Nakhon Pathom and 39.4 percent in Ayuthia did not have surnames in 1930; by 1950 these percentages had declined to 4.3 percent in Nakhon Pathom and 16.3 percent in Ayuthia,

<i>Village</i>	1930	1950	1970
N1 Assumption A	60.6%	66.0%	61.0%
Assumption B	60.3	66.4	61.0
N2 Assumption A	66.4	70.3	70.3
Assumption B	68.4	72.0	70.3
N3 Assumption A	51.2	47.8	50.7
Assumption B	52.2	48.0	50.7
A1 Assumption A	55.5	57.9	54.3
Assumption B	54.6	59.0	54.3
A2 Assumption A	53.8	54.1	56.4
Assumption B	51.1	54.0	56.4
A3 Assumption A	54.6	57.8	60.9
Assumption B	58.5	59.9	60.9

Inspection of the above trends indicates that the top 20 percent of the landholders in the six villages experienced mixed fortunes over these four decades. Only two groups (A2 and A3) experienced consistently strengthened positions, while three (N1, N3, and A1) held approximately the same share of land in 1970 as they did in 1930. Shares of land ownership remained reasonably stable and no common patterns are apparent in spite of the marked economic disruptions caused by the world depression, the World War, the Korean war boom and the present conventional wisdom about dramatic increases in inequality.<sup>9</sup>

The degree of concentration can alternatively be measured by the Gini coefficient, a summary index which has the advantage over the

9) The median share of total land in the six villages held by the top 20 percent of the landowners was 59.5 percent in 1950 and 58.6 percent in 1970. This can be compared to the results of the 1963 Census of Agriculture that tabulated the size of cultivated holdings, excluding those held exclusively by tenants owning no land of their own. For the entire Central Plain, the top 20 percent of such cultivated holdings accounted for approximately 50 percent of total cultivated land. This percentage could be expected to be somewhat lower than the share held by the top 20 percent of the landowners in this study since their holdings include surplus land rented out for others to cultivate. National Statistical Office, *Census of Agriculture 1963, Central Region* (Bangkok), Table 1, pp. 12-13.

inspection of ownership shares of reflecting the entire distribution.<sup>10</sup> The Gini coefficient is sensitive to transfers of land and convenient for cross-sectional or time series comparisons. It measures concentration on an index ranging from zero, indicating perfect equality of landholding shares, to a coefficient of 1.0, total inequality.

Gini coefficients for the three time periods are as follows:

<i>Village</i>	<i>1930</i>	<i>1950</i>	<i>1970</i>
N1	.53	.59	.56
N2	.63	.68	.66
N3	.48	.44	.47
A1	.53	.56	.53
A2	.48	.51	.53
A3	.56	.58	.59

Concentration increased from 1930 to 1950 in five villages but three of them experienced a reversal, a lessening of concentration, since 1950. Four villages have somewhat greater inequality in 1970 compared to 1930, but there is no evidence of the seriously worsening ownership pattern which is commonly asserted to have occurred in the Central Plain.<sup>11</sup>

Since the primary data are identified by the name of the individual owner or owners, they provide no basis for classifying land by households or farm families. As a second-best approach, significant family names

- 10) The Gini coefficient measures the ratio of the area between a Lorenz Curve and the diagonal curve showing perfect equality of shares to the entire area below the diagonal curve.
- 11) The statistical validity of these results are discussed in siriwan Janekarn. "Measures of Inequality as Applied to Land Distributions in Changwats Nakorn Pathom and Ayuthia." (M.A. Thesis, National Institute of Development Administration, Bangkok, 1974). Four additional methods of measuring concentration were applied to these same data on landholdings to evaluate the significance of the Gini Index on Inequality. The tests were: range, relative mean variation, variance, and coefficient of variation. In 45 of 48 cases the alternative concentration measures moved in the same direction as the Gini coefficients (although the slopes were different); the three exceptions were for Village A3 from 1950 to 1970. While the alternative measures have certain technical disadvantages compared to the Gini coefficient, their movements in common with the Gini Index increase confidence in its validity.

have been identified and all the land registered under a single surname aggregated to reach the total land held by the group. The cohesiveness of these family-name groupings varies greatly. Frequently, the members will live in a common compound and engage in mutually supportive economic activities, but in other cases the common surname is only a formal relic of a past relationship. Nevertheless, the family groupings tend to represent power blocs in the village and their rise or fall affects the power structure. As shown below in Table 2, the top five family-name groups currently control about one fifth of the land in these villages, and the share held by these same families has expanded remarkably slowly over the last several decades—from an average of 18 percent of the total area in 1952 to 20 percent in 1962 and 21 percent in 1972.

TABLE 2  
Total Land Held by Five Largest Family-Name Groupings By Village

	<i>Percent of Total Titled Land in the Sample Villages</i>		
	1952	1962	1972
N1	28.9%	31.0%	31.3%
N2	19.4	15.5	16.6
N3	11.4	14.6	15.9
Nakhon Pathom Average	<u>19.9%</u>	<u>20.4%</u>	<u>21.3%</u>
A1	21.4	22.2	24.1
A2	14.8	18.9	19.0
A3	11.9	17.1	17.9
Ayuthia Average	<u>16.0%</u>	<u>19.4%</u>	<u>20.3%</u>

If it were possible to account for population growth and the addition of land not previously identified with a surname, it is probable that these families experienced a decline in landholding per person.<sup>12</sup> The largest families have not inexorably swallowed the smaller landowners. A random rise and fall of individual groups better characterizes the experience, especially during the last decade when under half of these individual family groups realized increases in their land-share. The analysis in this section does not purport to define standards of equality or illuminate

12). The time series has not been extended prior to 1952 because the family-name problem makes earlier classification increasingly incomplete and unreliable.

the degree of rural poverty, basic questions beyond the competence of the study. But it does provide evidence with important policy implications that the rich and powerful have not been rapidly expanding their relative share of the ownership of rural land in recent decades.

### **Landlords, Tenants and Encumbrances on Rural Land**

According to traditional law land was the property of the King and the peasants occupied and cultivated it by royal permission. The establishment of a modern land titling system made it possible for the peasants legally to alienate their land rights as security for loans.

The primary data in this study provide evidence relevant to the conventional propositions that the rate of encumbering land has been accelerating and the consequences have been increasing loss of land and a shifting of ownership to absentee landlords. Mortgages and *khai faak*, the two types of encumbrances recognized by law, are considered together because they are similar mechanisms for borrowing money on the collateral of the land title.

The encumbrance of rural land, outstanding mortgages and *khai faak*, as a percentage of total titled land area is presented in Table 3. The practice of *khai faak* is substantially less significant than mortgaging and has been declining since World War II. The extent of encumbrances is slightly higher in Nakhon Pathom than Ayuthia, and there is no common pattern of variation except for some evidence of a decline during the last several decades. The depression increased the extent of encumbrances on land in Ayuthia but the effect was delayed until 1940 in Nakhon Pathom. The clear conclusion, contrary to the Burmo-Malthusian model, is that encumbrances on land are both reversible and decreasing

In addition to encumbrances which are legally recorded on the title certificate, there is widespread use of the title certificate as security for loans which are not registered or recognized at law. These "unregistered mortgages" are prevalent in cases where the loan is small and of short duration. The creditors, in these cases, have no legal rights to the land, but their physical possession of the title deeds prevents the true owners

from transferring their legal interests.<sup>13</sup> In the sample survey of village N3 described in Appendix B, unregistered mortgages were three times greater than registered mortgages. This is roughly consistent with farmers' answers to questions concerning the extent of unregistered mortgages. No data exist, of course, on unregistered mortgages and persistent questioning about their importance provided no satisfactory conclusions but, at least, no evidence that this is a recent phenomenon.

While the encumbrance of 9-10 percent of the land, as shown in Table 3, does not appear onerous, this may represent merely the tip of a

**TABLE 3**  
**The Encumbrance of Rural Land :**  
**Outstanding Mortgages and Khai Faak as a Percentage of Total Titled Land**  
**1910—1972**

Year	Ayuthia			Nakhon Pathom		
	Mort- gage	Khai Faak	Total	Mort- gage	Khai Faak	Total
1910	5.3%	5.1%	10.4%	5.4%	2.9%	8.3%
1915	5.8	6.0	11.8	8.5	4.5	13.0
1920	5.2	3.3	8.5	9.0	3.6	12.6
1925	3.9	3.2	7.1	8.6	2.2	10.8
1930	8.6	3.1	11.7	6.5	2.0	8.5
1935	5.9	6.0	11.9	6.3	3.9	10.2
1940	5.4	4.9	10.3	11.9	3.2	15.1
1945	3.6	1.9	5.5	9.6	2.0	11.6
1950	3.0	1.3	4.3	10.5	1.1	11.6
1955	3.8	0.7	4.5	10.2	0.8	11.0
1960	9.7	1.4	11.1	8.4	1.5	9.9
1965	8.0	1.5	9.5	7.2	1.3	8.5
1970	8.4	0.8	9.2	6.6	0.7	7.3
1972	7.4	1.0	8.4	5.9	1.1	7.0
Averages of above						
Percentages	6.0%	2.9%	8.9%	8.2%	2.2%	10.4%

13) During the 4th and 5th reigns, cultivators were warned not to give their title papers to creditors for security because the courts would hold that land belonged to the one possessing the title papers. Under the modern system of land registration introduced in 1901, the stated ownership on the title deed maintained in the office of the Land Department controlled, and the landowner's title was a copy of the original. David B. Johnston, personal communication, November 15, 1975.

larger iceberg of mortgages, with the larger portion unrecorded and invisible. The conventional wisdom is that such indebtedness is undesirable. In fact, the welfare implications of a high share of encumbered land depend upon the terms and productivity of the borrowings. The loss of land because of such encumbrances rather than the extent of the outstanding credit is a more accurate measure of the effect on rural welfare.

Table 4 presents data on the loss of land because of mortgage foreclosures and the failure to redeem *khai faak* contracts as a percentage of total titled area. While a large area was mortgaged without registration, the rate of loss in this section need not be adjusted upward because legal foreclosures are not possible under this form of indebtedness. Although Ayuthia had a lower degree of land encumbrance than Nakhon Pathom, it experienced a significantly higher rate of land losses. After the expected peak in the early 1930's, the rate of losses declined with the exception of an increase in Ayuthia in the 1960's.

TABLE 4

**The Loss of Land Because of Mortgage and Khai Faak as Percentage of Total Titled Area, 1910-1972**

Time Period	Land Lost During the Period	
	Ayuthia	Nakhon Pathom
1910-14	0.6%	0.1%
1915-19	0.5	0.8
1920-24	1.6	0.4
1925-29	3.2	1.2
1930-34	9.4	3.6
1935-39	2.6	2.1
1940-44	2.5	1.3
1945-49	0.7	1.0
1950-54	0.8	0.5
1955-59	0.3	0.2
1960-64	2.6	0.5
1965-69	1.0	0.6
1970-72 (3 yrs.)	0.2	0.6

TABLE 5  
**Losses of Land Caused by Land Encumbrances and Growth in Absentee  
 Landlordism: The Inter-war Period in Thailand and Burma**  
 (Area of Land as a Percent of Total Titled Area)

Year	Lower Burma	Ayuthia		Nakhon Pathom	
	Increase in Absentee Landlords <sup>(1)</sup>	Loss of Land: Mortgage Fore- closures <sup>(2)</sup>	Increase in Non- Resident Ownership <sup>(3)</sup>	Loss of Land: Mortgage Fore- closures <sup>(2)</sup>	Increase in Non- Resident Ownership <sup>(3)</sup>
1915	1.0%	0.3%	0.5%	—	-3.2%
1916	1.3	—	0.4	0.1%	-0.2
1917	1.5	0.2	1.0	0.2	-0.1
1918	0.5	—	—	—	—
1919	1.1	—	0.4	0.5	—
1920	0.7	—	0.7	0.2	0.8
1921	0.4	0.2	3.6	0.1	—
1922	0.9	0.8	0.2	—	—
1923	0.8	—	-0.2	—	-0.8
1924	0.6	0.6	-1.0	0.1	0.1
1925	0.1	0.5	-0.3	0.4	0.4
1926	0.3	1.2	0.5	—	0.3
1927	0.7	0.2	0.2	—	-0.2
1928	0.3	0.5	1.3	—	0.3
1929	0.8	0.8	0.4	0.8	0.8
1930	1.4	1.2	0.2	0.2	0.1
1931	2.5	2.4	2.9	1.0	1.5
1932	5.0	3.3	4.2	1.4	1.3
1933	3.8	1.4	2.1	0.8	1.8
1934	2.9	1.1	1.2	0.2	0.5
1935	2.0	0.3	0.3	0.4	—
1936	1.0	0.4	0.1	0.4	-0.6
1937	0.3	0.8	0.2	0.5	0.4
1938	0.5	1.0	0.1	0.4	0.4
1939	0.3	0.1	0.8	0.4	—
Cumulative	30.7%	17.3%	19.8%	8.1%	3.6%

1) Cheng Siok-hwa, *The Rice Industry of Burma 1852-1940* (Singapore: University of Malaya Press, 1968), p. 268

2) Mortgage and *khai faak*

3) Annual increase of area held by residents of a different district or province than the village where the land is situated.

Note: The correlation coefficients between the increase in Burmese absentee landlords and the loss of land caused by mortgage foreclosures are .72 for Ayuthia and .68 for Nakhon Pathom.

While the recent decline in the rate of land loss provides a direct refutation of the conventional wisdom, the degree of losses during the depression reflects earlier conditions of rural distress which are generally ignored or misunderstood in contemporary economic analysis of Thailand. The Burmo-Malthusian model of inevitable and progressive deterioration does not easily accommodate the Thai case of severe land dislocations during the depression and subsequent decades of recovery. To permit more detailed examination, the annual data and the most comparable Burmese data are presented in Table 5 for the period between the two World Wars.

Although data on the loss of land because of mortgage foreclosure are not directly available for Burma, data on the increase of absentee landlords (non-resident, non-agricultural ownership) may serve as a substitute. English officials generally agreed that the foreclosure of mortgages caused most of the land alienation in Lower Burma during this period.<sup>14</sup> The increase in absentee-landlord holdings in Lower Burma, shown in Table 5, includes some land acquisition outside of the mortgage process but excludes a small amount of land lost by mortgage foreclosures to resident landlords. On balance, the growth of absentee landlordism may be a reasonable proxy for land losses due to mortgages. The losses in Burma started immediately after World War I when prices declined, but Thailand did not experience persistent losses until the 1919-20 drought and the onset of the depression. During the next two decades land losses as a percentage of total area under title, particularly in Ayuthia, approached Burma in severity:

	<i>Lower Burma</i>	<i>Ayuthia</i>	<i>Nakhon Pathom</i>
1920-29	5.6%	4.8%	1.6%
1930-39	<u>19.7</u>	<u>12.0</u>	<u>5.7</u>
	25.3	16.8	7.3

The worldwide depression transmitted its effects directly into the rice exporting deltas of Southeast Asia. Paddy prices in Siam dropped 50 percent from 1929 to 1931 and the market for paddy land collapsed.

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14) Adas, p. 392.

For example, land in Angthong fell from Baht 200 to Baht 10 per rai.<sup>15</sup> Potential creditors were unwilling to lend money secured by land and mortgagees were reluctant to foreclose on the growing number of mortgages in default because the market value of land had shrunk far below the value of outstanding mortgages. The farmers successfully petitioned for a reduction in the land tax but Pridi Phanomyong, then a member of the Phya Mano Government, failed in gaining approval for his plan to nationalize agricultural land. The British Embassy reported in 1934 that agricultural indebtedness was Siam's major domestic problem.<sup>16</sup>

Nevertheless, the adverse repercussions from mortgage losses were less critical in Thailand than in Burma for various reasons. First the, settlers who opened up the frontier of Lower Burma migrated over long distances and, therefore, required more capital than Thai farmers in the Central Plain. Second, the losses were geographically more widespread in Burma; the above estimates are for all of Lower Burma and the rates of loss were substantially higher in some districts. Losses in Thailand were probably most severe in Rangsit and somewhat less so in Ayuthia, while Nakhon Pathom may be more representative of conditions in the Central Plain. Third, the mortgagees in Burma tended to be alien money-lenders or absentee owners cultivating large estates with "industrial agriculturists". While a large fraction of the mortgagees in Thailand were Chinese, they were more likely to reside in or near the village and their culture did not clash as brutally with the indigenous culture. That the landlords in Thailand generally employed tenants rather than industrial laborers as in Burma permitted retention of the traditional village social organization for agricultural production. Whereas large rice estates in the North and West Delta regions of Burma

15) Johnston, chapter IX. Also see Benjamin A. Batson. Review article, "History of the Thai Revolution: A Study in Political Behavior". *Journal of the Siam Society* 61 (July 1973), pp. 193-4.

16) Great Britain. *Siam Annual Report 1934*. (Bangkok: January 30, 1935), FO 371 19379, p. 27,

averaged 1–200 acres, and even more nearer Rangoon, the Thai landlord's holdings were much smaller and his economic power less dominant,<sup>17</sup>

While the growth of absentee landholdings was believed to approximate the losses of land from mortgage foreclosures in Burma, the relationship appears much weaker in Thailand. The data on the location of the owners of the land titles compared to the location of the land provide evidence that absentee landlordism in Thailand has been more limited in extent and variation.

Total absentee landlordism, as defined in Table 6, can be summarized for successive decades as follows (percent of total land area):

	<u>1910</u>	<u>1920</u>	<u>1930</u>	<u>1940</u>	<u>1950</u>	<u>1960</u>	<u>1970</u>
Ayuthia	4%	7%	12%	23%	17%	17%	20%
Nakhon Pathom	1%	5%	5%	11%	7%	9%	11%
Burma <sup>18</sup>	13%	18%	23%	39%	—presumably zero—		

Changes in absentee landholdings and land losses from mortgages and *khai faak* are positively correlated; both follow similar logarithmic curves which, contrary to the conventional wisdom, tend to flatten out in recent decades. The causal linkage between them, however, is weak because mortgage loans in Thailand are frequently placed with local credit sources. The locations of mortgagors and mortgagees are shown in Table 7. The creditors lived outside of the district in only 36 percent of the cases in Ayuthia and 26 percent of the cases in Nakhon Pathom. Analysis of the time series (not shown here) indicates that reliance on mortgagees from outside of the district reached a peak in Ayuthia in the 1920's and then declined, while no time trend is apparent in Nakhon Pathom. Borrowing money by registered mortgages is the most formal type of rural indebtedness and it tends to be associated with above-average sums and nonresident creditors who understand the legal

17) Adas, p. 396.

18) Cheng Siok-hwa. *The Rice Industry of Burma 1852-1940* (Singapore: University of Malaya Press, 1968), p. 268-9. Area owned by non-resident non-agriculturists as percentage of total occupied land in Lower Burma. See Table 5 for the annual increases of land held by "absentee landlords" as a percentage of total land.

advantages of registration. For other types of rural credit, the farmers rely even more heavily on local sources such as relatives, neighbors or village traders.

Quite apart from the effect of mortgage losses, an increase in absentee landlords would be expected as a consequence of the inter-generational division of land and the outward migration of surplus family members. To the extent that these absentee landlords are recent emigrants from the villages, they should have more personal concern for the welfare of the tenants, who in many cases are relatives and friends.

While the primary argument here is that the spread of absentee landlords is not accelerating, even if it were there is no evidence that absentee landlords impose more onerous terms on their tenants than resident landlords. In contrast to other countries of Southeast Asia, Thailand does not have an urban rentier class. Most absentee landlords have other occupations and the villagers frequently say that they are more lenient, collect lower rents and demand fewer extra services than the resident landlords.<sup>19</sup> The conventional wisdom's emphasis on the ills of absentee landlordism appears misplaced on several counts.

Although the primary data from the title deeds do not provide any direct evidence on trends in landlordism or tenancy, a small sample survey of landowners in the six villages was conducted to provide an insight into the functional relationship which exists at present; see Table 8.<sup>20</sup> According to the conventional wisdom, the landlords are represented as a tight social class, with oligopolistic power to exploit the farmers by charging rents above competitive norms. The agriculturists' demand curve for land is considered to be relatively inelastic because of the limited supply of land and the absence of alternative employment opportunities. Investments to raise the productivity of the rented land are discouraged by the thinness of the farmers' surplus and their limited tenure rights.

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- 19) In one important village study, the author concluded that "from the viewpoint of the villagers' best interests, the good side of absentee landlordism seems to outweigh the bad side." Kamol Janlekha. *A Study of the Economy of a Rice Growing Village in Central Thailand* (Bangkok: Ministry of Agriculture, 1955), p. 68.
- 20) Government surveys provide some evidence for the conventional wisdom that tenancy in the Central Plain has been increasing in recent years, although "pure tenancy" declined from 25.6 percent in 1937 to 14.0 percent in 1950 to 10.7 percent in 1963, the three years of agricultural censuses. James C. Ingram. *Economic Change in Thailand 1850-1970* (Stanford: Stanford University Press, 1971), p. 267.

TABLE 6  
 Location of the Owners of Land in the Sample Villages  
 (Percent of Total Titled Area)

Year	In the Same District		Assumed Absentee Landlords	
	Same Village	Different Village	Different District	Different Province
AYUTHIA				
1972	52%	27%	8%	13%
1970	52	28	8	12
1960	57	26	8	9
1950	61	22	9	8
1940	59	18	13	10
1930	74	14	3	9
1920	80	13	1	6
1910	84	12	2	2
1906	85	12	1	2
NAKHON PATHOM				
1972	66%	23%	4%	8%
1970	67	22	4	7
1960	66	25	4	5
1950	64	29	3	4
1940	60	29	3	8
1930	69	25	1	4
1920	70	25	2	3
1910	74	25	1	0

Note: If the owner of the land lives in a different district or a different province than where the land is situated, he is assumed to be an absentee landlord; if he lives in the village itself or in an adjacent village, he is close enough to cultivate the land himself or personally to oversee the cultivation by tenants if he rents the land. The data provide no evidence on whether owners rent their land or cultivate it themselves, so no overall rental ratio can be calculated. Nevertheless the simple fact of geographic separation from the land assures that the owner is a landlord and an absentee owner. This assumption is imprecise at the margin. The villages in some cases border villages in other districts or provinces and some absentee owners may be close enough to be resident landlords. In the case of Village N1 the adjacent village is a market town and some landowners there are merchants who display the traditional characteristics of absentee landlords. The extent of local ownership of village land shown in this study is similar to that in Bangchan, the most intensively studied village in the Central Plain. Village residents owned 64 percent of the village land there in 1953. Kamol Janlekha. *A Study of the Economy of a Rice Growing Village in Central Thailand* (Bangkok: Ministry of Agriculture, 1955), p. 55.

TABLE 7

## Location of Mortgagees (Lenders) and Mortgagors (Borrowers), 1910-1970

	Ayuthia			Nakhon Pathom		
	No. of Cases	%	Average Size (Rai)	No. of Cases	%	Average Size (Rai)
1. <i>Lender and Borrower in the Village</i>	260	34.2%	14.7	200	28.4%	21.9
2. <i>Lender in the Village:</i>						
Borrower in Different Village of Same District	21	2.8	16.7	10	1.4	16.4
Borrower in Different District of Same Province	6	0.8	18.2	1	0.1	25.0
Borrower in Different Province	—	—	—	5	0.7	5.4
3. <i>Borrower in the Village:</i>						
Lender in Different Village of Same District	199	26.3	18.3	309	43.8	28.8
Lender in Different District of Same Province	96	12.7	24.2	40	5.7	21.1
Lender in Different Province	48	6.3	25.8	38	5.4	29.6
4. <i>Lender and Borrower outside the Village</i>	<u>128</u>	<u>16.9</u>	<u>22.7</u>	<u>102</u>	<u>14.5</u>	<u>41.7</u>
<i>Total</i>	758	100.0%	18.9	705	100.0%	28.0

*Note:* The data above include cases of *khai faak*, The village in each case refers to where the land is situated. e.g. in category 4, the mortgagor and mortgagee both reside outside of the village where the mortgaged land is situated.

While the conventional model may accurately depict the extreme conditions of pure tenants, agricultural families which own no land, the landlords in the Central Plain appear to have a more limited and economically beneficial role for farmers who need to rent some land. The

owner-operator of a rice farm in the Central Plain commonly enters and leaves the rental market as his requirements change over his family cycle. In this sample survey about half of the rice cultivators were operating their own and rented land in 1974, and other surveys provide ample evidence that multiple tenure of this type is of comparable significance throughout the Central Plain.<sup>21</sup> The regression equations, shown in Table 8B, indicate that the total area cultivated depends significantly upon the size of the family. The family's demand for land expands as children grow old enough to assist in the farm work and other dependents attach themselves to the household, only to contract in the latter phase of the family cycle as both obligations and stamina decline. At the mean for the entire sample, an additional family member is associated with about seven additional rai of land. Imperfections in the capital market and limited collateral deter the farmer from purchasing land for peak needs. The landlord serves the economic function of holding land and supplying it on the market for these temporary requirements.<sup>22</sup>

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21) L. Sternstein. "Aspects of Agricultural Land Tenure in Thailand." *Journal of Tropical Geography* XXIV (June 1967), p. 22.

22) The developmental cycle of family groups in a Thai-Lao village in the Northeast is described in H. Leedom Lefferts, "Some People Stay and Some People Go: Social Structure and Economic Organization in a Northeastern Thai Village," paper delivered at American Anthropological Association Meeting (New Orleans, November 28, 1973). "As soon as some children are old enough, the parents begin to rent additional fields from other village families (who are themselves in some other phase of the cycle). This will permit the production of additional rice which need not be utilized at home as food and can therefore be sold. As the children become able to cultivate on their own, the family can begin to invest its concomitantly growing capital in the buying of additional land . . . Thus, as the parents get older, there is a tendency to acquire more land, a short time later balanced by an equal tendency to divest themselves of it . . . Once [the village's] arable land is filled, one then finds a state of 'jiggling' between the various families of the village as they move through the phases of the developmental cycle and alternatively gain and lose access to pieces of land." pp. 13-16. In the developmental cycle of the village, once the arable land was fully cultivated, a stable equilibrium between population and land required emigration, although new and nontraditional economic activities have permitted some expansion of village size without disturbing the agricultural equilibrium.

TABLE 8

A. Selected Data on Rice Cultivators by Village from a Sample Survey<sup>(1)</sup>

Village	No. of Rice Cultivators <sup>(2)</sup>		Median	No. of Cases A Relative	Landlord is: A Villager	Median
	Total	No. Renting Land	Holding Per Person <sup>(3)</sup>			Duration of Rental
N1	20	9	6.5	4	2	4 yrs
N2	7	2	15.1	1	2	5
N3	19	9	10.3	8	7	6
A1	13	5	5.9	3	2	3
A2	10	6	7.9	4	0	7.5
A3	14	10	10.2	6	6	3.5
	83	41		27	19	

B. Regressions to Explain the Size of Landholdings by Village in Thailand<sup>(1)</sup>

$$Y = a + bX_1 + cX_2 + dX_3$$

where:

Y = Family's total land owned and rented

X<sub>1</sub> = Size of family (2)

X<sub>2</sub> = Dummy variable if the family head is engaged in a secondary occupation

X<sub>3</sub> = Dummy variable if the family head states that the family has adequate land  
(t-values in parentheses)

	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	R <sup>2</sup>	Durbin-Watson Statistic
Nakbon Pathom	8.6 (2.9)	-1.3 (-0.1)	15.0 (2.7)	23	1.34
Ayuthia	5.4 (3.3)	-35.9 (-2.6)	10.0 (2.2)	38	1.09

- 1) A small survey of landowners in the six villages was conducted in the spring of 1974 to obtain types of data not contained on the title deeds. The sample consisted of 20 landowners in each village, selected systematically from the largest to the smallest. Of the sample of 120 individuals, 117 were interviewed; 83 were rice cultivators, 9 gardeners of fruits and vegetables, 7 merchants 7 retired rice farmers, 3 school teachers and others.
- 2) Family members under 18 years old are arbitrarily counted as half a person in this table.
- 3) Number of rai owned and rented.

The structure and conduct in the operations of the agricultural land market suggest tentatively that the landlords are not exploiting the farmers by charging rentals over the competitive norm. Landlords are too heterogeneous to be able to set prices in concert. In most cases, they are relatives of the tenants and/or neighbors living together in the same village, with relationships which are necessarily personalized and unique. Variations in the quality of the land, even within a single village, also discourage collusive rent-fixing by the landlords. Stated rental rates are diverse, reflecting the land's relative location, soil quality and access to irrigation or flood waters. Although the elasticity of demand for rentable land cannot be measured, the cultivators are vividly aware of alternatives to renting village land, such as urban migration or seeking new land, activities which they often recommend to their children. The relatively short duration of rental arrangements reflects the short term, cyclical nature of family land requirements; it may evidence that the land rental market is functioning effectively not, as some have argued, an insecurity in the tenure rights of the farmers.

### Conclusions

The evidence of this study does not support the conventional wisdom that equality is worsening and that land sales, absentee ownership and mortgage losses are increasing in the Central Plain. The conventional wisdom has been widely accepted, however, because the conditions of the Burmo-Malthusian model seem to hold in contemporary Thailand and because such adverse consequences are the logical outcome of the dynamics of the model. The major conditions of the model will be briefly discussed.

**Passing of the land frontier:** The land suitable for paddy cultivation has been largely exhausted in the Central Plain.

**Population growth:** During the six decades covered in this study, the agricultural population has quadrupled. The power of compound growth on a fixed land base has a prima facie logic supporting the conventional wisdom.

**Fixed technology:** The state of the arts of rice cultivation has been static, with the exception of the local selection of better rice varieties,

until mechanization and fertilizer application became more common in the 1950's. Where irrigation facilities altered the duration and depth of the flooding, there has been some shift from the land-intensive broadcasting mode of planting to the labor-intensive transplanting mode, but this apparently has not been an autonomous adjustment to relieve the pressure of surplus labor on the land.<sup>23</sup>

Custom of equal inheritance: Although there are some regional variations and preferences for the child who cares for the elderly parents, the general custom is for a landowner to distribute his land roughly equally between his children. This custom is apparently responsible for the declining average size of land transaction in this study which is shown in Table 9.

In addition to the existence of the elements of the Burmo-Malthusian model, the simplicity of the diagnosis strengthens the appeal and acceptance of the conventional wisdom. The large landlord is a convenient scapegoat for the failure of agricultural productivity to rise more rapidly; the conventional wisdom mounts a parallel attack on the middleman and supplies a comparable solution—to control or eliminate him. This simple approach is an attractive alternative because it avoids the stubborn problem of developing an improved agricultural technology suitable for local conditions and extending it to the village level.

In conclusion, two possible explanations for the divergence between the data in this study and the conventional wisdom are suggested. While the land frontier in the Central Plain may be largely exhausted, alternative

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23) Hanks argues that "populations increased and land became scarcer, so that transplanting became a more suitable mode of cultivation." Lucien M. Hanks. *Rice and Man: Agricultural Ecology in Southeast Asia* (Chicago and New York: Aldine-Atherton, Inc. 1972) p. 65. But Leslie Small's research in the Central Plain found no significant relation between population density and the percentage of area transplanted. Leslie E. Small. *Returns to Public Investment in Water Control in Southeast Asia: A Case Study of the Greater Chao Phya Project of Thailand* (New Brunswick: Rutgers University, 1975), New Jersey Agricultural Experiment Station/Cook College Bulletin 842, p. 32. The varieties grown and the planting method depend primarily on the duration and depth of the flooding.

**TABLE 9**  
**Average Size of Transaction**  
**By Decade for Major Types of Land Transaction:**  
**Ayuthia and Nakhon Pathom**  
 (Number of Rai Per Transaction)

Period	Sale		Gift & Will		Mortgage		Khai Faak	
	Ayuthia	Nakhon Pathom	Ayuthia	Nakhon Pathom	Ayuthia	Nakhon Pathom	Ayuthia	Nakhon Pathom
1910-19	22.3	24.8	17.4	25.2	21.5	39.4	19.5	39.8
1920-29	17.6	24.2	16.6	27.1	23.5	47.7	22.8	29.0
1930-39	17.1	22.4	13.8	21.8	17.8	31.7	20.6	32.9
1940-49	16.5	23.8	11.5	18.8	21.2	27.7	26.2	27.5
1950-59	10.7	15.8	12.4	17.6	16.3	21.8	16.1	18.3
1960-69	9.6	11.2	11.7	11.8	15.3	19.2	11.0	17.4
1970-72	7.6	8.3	8.1	13.1	14.6	20.9	18.2	13.7

*Note:* In cases where there is more than one owner registered on the title deed, the transfer of each individual's interest is counted as a separate transaction.

employment possibilities in the provincial towns and Bangkok and on lands opened up in other regions have greatly relieved the Malthusian pressure on the paddy fields of the Central Plain. A recent United Nations' study of land capability concluded that less than one quarter of the land suitable for paddy is being cultivated.<sup>24</sup> The migration of many of the rural youth to seek employment beyond their villages and the capacity of the economy to produce opportunities for them have granted at least a temporary reprieve from the consequences of the Burmo-Malthusian model.

Alternatively, the heterogeneity of village life makes it possible to fit together different pieces of experience to substantiate conflicting models of development. It was hoped that the random selection of this village sample would permit broad generalization of the results, but qualifications of the validity and representativeness of the data have been recognized. The objective, therefore, is not to postulate an alternative version of the conventional wisdom but simply to caution against the naive acceptance of unsubstantiated generalizations about land ownership and the value of simple solutions to the complex problem of raising the productivity and welfare of the Thai farmer.

24) Bimbandha Vasuvat. *Land Development in Thailand*. (Bangkok: Ministry of Agriculture and Cooperatives, January, 1974), Technical Paper No. 103, p. 12.

## APPENDIX A

### Basic Statistics on the Rice Economy of Ayuthia and Nakhon Pathom

Year	Circle Ayuthia <sup>(1)</sup>		Ayuthia	Nakhon Pathom Circle <sup>(1)</sup>		Nakhon Pathom Total	Rice	Bangkok
	Area Planted (1,000 rai)	Yield (kilos per rai)	Popula- tion <sup>(2)</sup> (1,000's)	Area Planted (1,000 rai)	Yield (kilos per rai)	Popula- tion <sup>(2)</sup> (1,000's)	Exports <sup>(3)</sup> (1,000 tons)	Export Price <sup>(4)</sup> (Baht per ton)
1910						1055	86	54
1911						632	104	75
1912	2353	306		1021	239	593	110	
1913	2547	286		1090	223	1183	84	79
1914	2251	292		916	228	1103	77	75
1915	2795	307		1127	240	1127	78	80
1916	2982	291		1096	227	1187	84	82
1917	3066	220		1125	172	1125	87	73
1918	3189	115		1108	90	852	155	114
1919	3335	75	228	1202	88	147	445	277
1920	3515	296		1328	190		283	103
1921	3644	286		1355	215		1295	109
1922	3450	284		1480	283		1285	100
1923	3767	253		1434	156		1335	108
1924	3690	289		1564	261		1163	120
1925	3696	199		1561	206		1376	122
1926	3771	300		1534	294		1308	126
1927	3677	226		1494	246		1720	117
1928	3626	152		1705	171		1480	118
1929	3978	221	272	1758	146	187	1132	123
1930	3994	201		1798	192		1027	100
1931	3837	188		1834	233		1332	58
1932	4966	280					1672	56

1933	3952	259		1911	247	1663	50
1934	3813	268		1954	171	2022	49
1935	3822	219		1855	177	1501	61
1936	3614	178		1773	232	1559	62
1937	3717	259	327	1835	213	1102	68
1938	3942	164		1979	263	1555	63
1939	4050	237		2015	239	1892	60
1940	4159	239		2043	186	1210	77
1941	4069	243		2514	203	1164	128
1942	4304	89		2045	70	752	137
1943	4132	269		2053	234	540	160
1944	4067	210		1992	193	310	209
1945	3703	166		1852	137	195	411
1946	3944	177		2204	131	455	581
1947	4138	207	374	2085	194	392	982
1948	4289	219		2279	218	812	1545
1949	4421	224		2304	239	1216	1538
1950	4381	220		2371	219	1483	1520
1951	4497	207		2403	216	1576	1573
1952	4410	222		2348	210	1415	1910
1953	4458	241		2445	212	1336	2000
1954	4272	145		2470	191	1001	1819
1955	4001	208		2278	236	1242	2120
1956	4085	230		2363	269	1255	2285
1957	4103	141		2272	180	1576	2308
1958	4209	184		2251	223	1135	2622
1959	4125	131		2192	159	1095	2367
1960	4052	226	479	2276	225	1203	2067
1961	4062	219		2322	234	1576	2331
1962	4161	241		2254	247	1271	2626
1963	4216	292		2336	306	1418	2400

Year	Ayuthia Circle <sup>(1)</sup>		Ayuthia Popula- tion <sup>(2)</sup> (1,000's)	Nakhon Pathom Circle <sup>(1)</sup>		Nakhon Pathom Popula- tion <sup>(2)</sup> (1,000's)	Total Exports <sup>(3)</sup> (,1000 tons)	Rice	Bangkok
	Area Planted (1,000 rai)	Yield (kilos per rai)		Area Planted (1,000 rai)	Yield (kilos per rai)			Export Price <sup>(4)</sup> (Baht per ton)	Paddy Price <sup>(5)</sup>
1964	4241	194		2460	305		1896	2346	874
1965	4318	263		2466	275		1895	2280	1278
1966	4404	289		2458	308		1508	2702	1284
1967	4333	274		2484	269		1482	3278	1207
1968	4315	254		2624	278		1068	3625	1146
1969	4422	278		2414	239		1023	2950	1067
1970	4401	261	502	2341	277	419	1064	2386	1034

- (1) Area and yield are for the circle (monthon), a larger administrative unit than the province, since early data are not available by province. The circle system was eliminated in 1934, but the area of the provinces constituting each circle has been combined for the subsequent period. Nakhon Pathom was a part of the Nakhon Chaisri Circle and then the Ratburi Circle. Sources: for 1912 to 1936, *Statistical Yearbook of the Kingdom of Siam*, various volumes. 1937 to 1970 from Kasetsart University, Faculty of Economics and Business Administration, *Planted Area, Harvested Area, Production and Yield by Changwat in Central Plain* (1967).
- (2) National Census data from the *Statistical Yearbook of the Kingdom of Siam*, various volumes.
- (3) 1910 to 1959 from James C. Ingram, "Thailand's Rice Trade and the Allocation of Resources," in C.D. Cowan, ed., *The Economic Development of Southeast Asia*. (London, 1964), pp. 120-22. 1960 to 1970 from Bank of Thailand, *Monthly Bulletin*, various issues.
- (4) 1910 to 1959 from Ingram, "Thailand's Rice Trade and the Allocation of Resources." 1960 to 1970 from Ministry of Agriculture, *Agricultural Statistics of Thailand*, 1972, February 1972, p. 91.
- (5) 1902 to 1911 from the *Royal Gazette*. 1913 to 1934 from the Bangkok International Chamber of Commerce, *Bangkok Market Report* (Na Muang paddy). 1925 to 1927 from the *Bangkok Times* (average of Na Suan, Kao Bao and Sam Ruang paddy). 1937 to 1970 from *Agricultural Statistics of Thailand*, 1972 (2nd grade paddy wholesale prices, delivered to Bangkok mills).

## APPENDIX B

## Methodology

A two stage process was used to select the villages (tambols) for this study. The district (amphur) was selected in the first stage and the village in the second stage. In Ayuthia, three of thirteen districts were selected at random in the first stage. One village in each of the three districts was selected at random during the second stage, but field visits revealed that several of the selected villages had been in different districts at an earlier period. When districts became heavily populated, the government sometimes divided them, thus creating a new district and administrative apparatus. When this process transferred a village to a new district, the land records for transactions prior to the division were maintained separately and were very difficult to locate. Therefore, the random process was used again to select alternative villages in these cases.

In Nakhon Pathom, one village had been selected by a non-random process in Muang District and studied prior to the initiation of this study. Subsequently two districts were selected in the eastern part of the changwat to avoid the sugar areas in the western part. One village was selected by random process in each of these two districts.

The final sample consisted of the following:

District	Village	Number of Titles		Total Titled Est. 1972	
		Total	Sampled	Area (rai)	Population
<i>Nakhon Pathom</i>					
Nakhon Chaisri	Lambua (N1)	453	453	8,941	3,787
Banglane	Lampaya (N2)	578	578	9,013	4,418
Muang	Donyaihom (N3)	1,502	500	28,404	6,797
<i>Ayuthia</i>					
Bang Pahan	Talnane (A1)	378	378	3,027	1,567
Pachi	Nongnamsai (A2)	370	370	6,733	1,700
Bang Pain	Wat Yom (A3)	381	381	6,122	2,040

The villages are identified in this study by the symbols in parentheses. Cost consideration required limiting the title survey in N3 to one third of the village's title population and systematic sampling was used to select 500 cases from the total of 1502 title deeds for the village. In other cases the survey covers all the land for which title deeds had been issued in the village.

The data in this study starts at the time the land titles were first issued for the sample of titles selected. The dates of the first titles were as follows for each village:

	<i>Date First Titles Were Issued</i>	<i>Area Titled That Year as Percent of 1972 Titled Area</i>
N1	1907	82.7%
N2	1907	21.9
N3	1906	76.1
A1	1903	15.4
A2	1905	87.7
A3	1901	81.0

By 1910, 90 percent of the land in the Ayuthia villages had been titled, but this level of coverage was not reached, on average, in the Nakhon Pathom villages until 1940; the following table shows the extent of titled area by decade compared to the present time:

	<i>Area Under Title as Percent of Total Titled Area in 1972</i>	
	<i>Nakhon Pathom</i>	<i>Ayuthia</i>
1905	0.0%	88.5%
1910	68.0	90.0
1920	77.8	90.3
1930	86.1	97.8
1940	89.4	98.3
1950	91.6	99.0
1960	95.2	99.0

A systematic sample of 50 title deeds or 10 percent of the titles in N3 was selected in order to test the data's reliability for accuracy and completeness by interviewing the nominal title holders. Ninety-two percent of the nominal owners were located and interviewed. In three cases there were discrepancies between the information on the title deed in the Land Department office (the source of data in this study) and the nominal title holders' statements of what should be on the title deed. In two cases the nominal owners said they had sold their land and had recorded the transaction at the Land Department; there is no explanation why the official title deed did not show the transaction. In the third case there was an apparent recording error, for the number of rai transferred in a partial sale was not the same on the copy of the title deed held by the owner and the original in the Land Department.

In addition there were eight cases where the nominal owners reported the existence of transactions which they knew had not been recorded. One was the simple case of a gift from father to daughter which would be recorded in due course. There were seven cases of "unregistered mortgages"; the registered owners of the land were not able to show the deeds to the interviewer because they were in the physical possession of the moneylenders.

The title deeds contain information on all legal transactions affecting titled parcels of land and the names and addresses of the individuals involved in each transaction. These data were tabulated by computer and the printouts available for each village and each province are organized as follows: (1) annual data on the total titled area, number of transactions, and average size of transaction, (2) annual pattern of ownership by the location of the owner: village resident, different village but same district, different district but same province, different province, (3) annual data for each type of transaction showing number of transactions, transaction size as a percent of total area and in rai, and locations of the transferer and receiver of the land using the same definitions as in (2), (4) annual outstanding mortgages and *khai faak*, with changes during the year caused by redemption or loss of the encumbered land, (5) annual data on total landholdings and land transactions of each of the largest landowning groups organized by surname.

It was originally planned to supplement the statistical analysis of the data on the title deeds with extended fieldwork in all six villages. This unfortunately was not possible; residence was limited to village N3 and considerable reliance placed on short visits and the sample survey described in Table 8. The ease of locating the villagers named on the title deeds suggests the desirability of supplementing traditional village studies in the Central Plain with histories of individual land ownership. The working papers and computer printouts of this study can be made available to any scholar caring to penetrate more deeply into the dynamics of land ownership in the six villages of this sample.